



Fit For Life



Health education



Contents

Contents	2
Basic Information	4
Learning Goals	5
Assessment for Learning	8
The Entry Point	11
Knowledge Harvest	13
The Big Idea	14
Explaining The Theme	14
The Big Picture	15
Physical Education Learning Goals	17
Physical Education Task 1	18
Physical Education Task 2	20
Physical Education Task 3	22
Physical Education Extension Task	23
Art Learning Goals	24
Art Task 1	25
Art Task 2	27
Art Extension Task	29
Science Learning Goals	30
Science Task 1	31
Science Task 2	34
Science Task 3	37
Science Extension Task	41
International Learning Goals	44
International Task	45



International Extension Task	47
The Exit Point	49
Resources	50

Basic Information

This section details the time allocation for this unit of work, links to other subjects and Assessment for Learning opportunities.

Timings

This unit of work is intended to last about 6 ½ weeks.

The following suggested timings are approximate guides and are dependent on each school's individual context.

	No of Hours	No of Weeks
Entry Point, Knowledge Harvest, Explain the Theme	8	1
Physical Education	12	1 ½
Art	8	1
Science	8	1
International	4	1 ½
Exit Point	4	½

Links to other IPC subjects

ICT & Computing learning goals are included in the subject learning. Links to ICT & Computing, and technology are provided at the end of tasks where appropriate.

Language Arts and Mathematics links

Suggestions of how to include links to Language Arts and Mathematics are provided where appropriate at the end of tasks.

Learning Goals

Art Learning Goals

Children will:

3.01 Know that the study of art is concerned with visual and tactile expression and communication

3.02 Know how artists, craftspeople and designers from a variety of traditions - including those of their home country and the host country - use materials, forms and techniques to express their emotions, observations and experiences



3.03 Be able to use a wide variety of materials, forms and techniques to express their emotions, observations and experiences



3.04 Be able to communicate through visual and tactile forms

3.05 Be able to improve their own work

3.06 Be able to make judgements about works of art, showing understanding, appreciation, respect and enjoyment as appropriate

3.07 Be able to consider works of art in terms of meaning, design, materials, technique, place and time

3.08 Understand that the work of artists is influenced by their environment and that artists have an effect on the environment

International Learning Goals

Children will:

3.01 Know about the key features related to the lives of people in their home country and, where appropriate, their parents'- home countries

3.04 Know about similarities and differences between the lives of people in different countries

3.07 Understand that there is value both in the similarities and the differences between different countries

Physical Education Learning Goals

Children will:

3.01 Know that the study of physical education is concerned with healthy lifestyles and performing a range of movement activities

3.02 Know the principal rules of established sporting and athletic activities

3.03 Know the principles of water safety

3.13 Be able to swim a distance of at least 100 metres

3.14 Understand how physical activity affects the body

Science Learning Goals

Children will:

3.01 Know that the study of science is concerned with investigating and understanding the animate and inanimate world around them



3.02a Be able to conduct scientific investigations posing scientific questions



3.02b Be able to choose an appropriate way to investigate a scientific issue



3.02c Be able to make systematic and accurate measurements from their observations



3.02d Be able to explain and justify their predictions, investigations, findings and conclusions



3.02e Be able to record and communicate their findings accurately using the most appropriate medium and the appropriate scientific vocabulary and conventions

3.03 Be able to gather evidence from a variety of sources

3.04 Be able to discriminate between evidence and opinion

3.05 Understand the importance of using evidence to test scientific ideas

3.06 Understand some of the effects of what they learn on people's lives

3.15 Know about the structure of the human body

3.16 Know the functions of the major internal and external parts of the human body

3.18 Know about the effect of exercise on the human pulse rate

3.19 Know about the effect of drug misuse on the human body

3.22 Know that some characteristics of humans are influenced by their environment

3.23 Understand the importance of an appropriate diet for the health of humans and other animals

ICT & Computing Opportunities

The table below shows you where you can cover the following ICT & Computing Learning Goals.

Task	Goals
Art Extension Task	3.7, 3.8, 3.13
International Extension Task	3.3, 3.4, 3.8, 3.13
Science Task 2	3.7, 3.8, 3.13
Science Task 3	3.3, 3.4

Assessment for Learning

Are your children busy, or are they busy learning? This is the question that we need to be able to answer throughout each IPC unit – what improvements are being made to children’s learning as a result of studying this theme?

There are **three areas of learning** to reflect on, and **three types of learning** to assess.

The Three Areas of Learning: Academic, Personal and International

The three *areas* include **academic, personal and international learning**. To reflect on these, you will need access to the IPC Learning Goals for each subject (including International) and the IPC Personal Goals – a list of these can be found in Appendix A of the [IPC Implementation File](#). You can also find a full list of IPC Learning Goals in the [Assess section](#) of the Members’ Lounge.

The Three Types of Learning: Knowledge, Skills and Understanding

The three *types* of learning include **knowledge, skills and understanding**. We believe that differentiating between knowledge, skills and understanding is crucial to the development of children’s learning. We also believe that knowledge, skills and understanding have their own distinct characteristics that impact on how each is planned for, learned, taught, assessed and reported on. The implications of these differences are therefore far-reaching and deserve proper consideration.

Knowledge refers to factual information. Knowledge is relatively straightforward to teach and assess (through quizzes, tests, multiple choice, etc.), even if it is not always that easy to recall. You can ask your children to research the knowledge they have to learn but you could also tell them the knowledge they need to know. Knowledge is continually changing and expanding – this is a challenge for schools that have to choose what knowledge children should know and learn in a restricted period of time.

The IPC does not provide examples of knowledge assessment (tests or exams) as the knowledge content of the curriculum can be adapted to any national curricula requirements.

Skills refer to things children are able to do. Skills have to be learned practically and need time to be practiced. The good news about skills is the more your practice, the better you get at them! Skills are also transferable and tend to be more stable than knowledge – this is true for almost all school subjects.

The IPC supports skills tracking and assessment through the [IPC Assessment for Learning Programme](#). This programme includes Teachers’ Rubrics, Children’s Rubrics and Learning Advice.

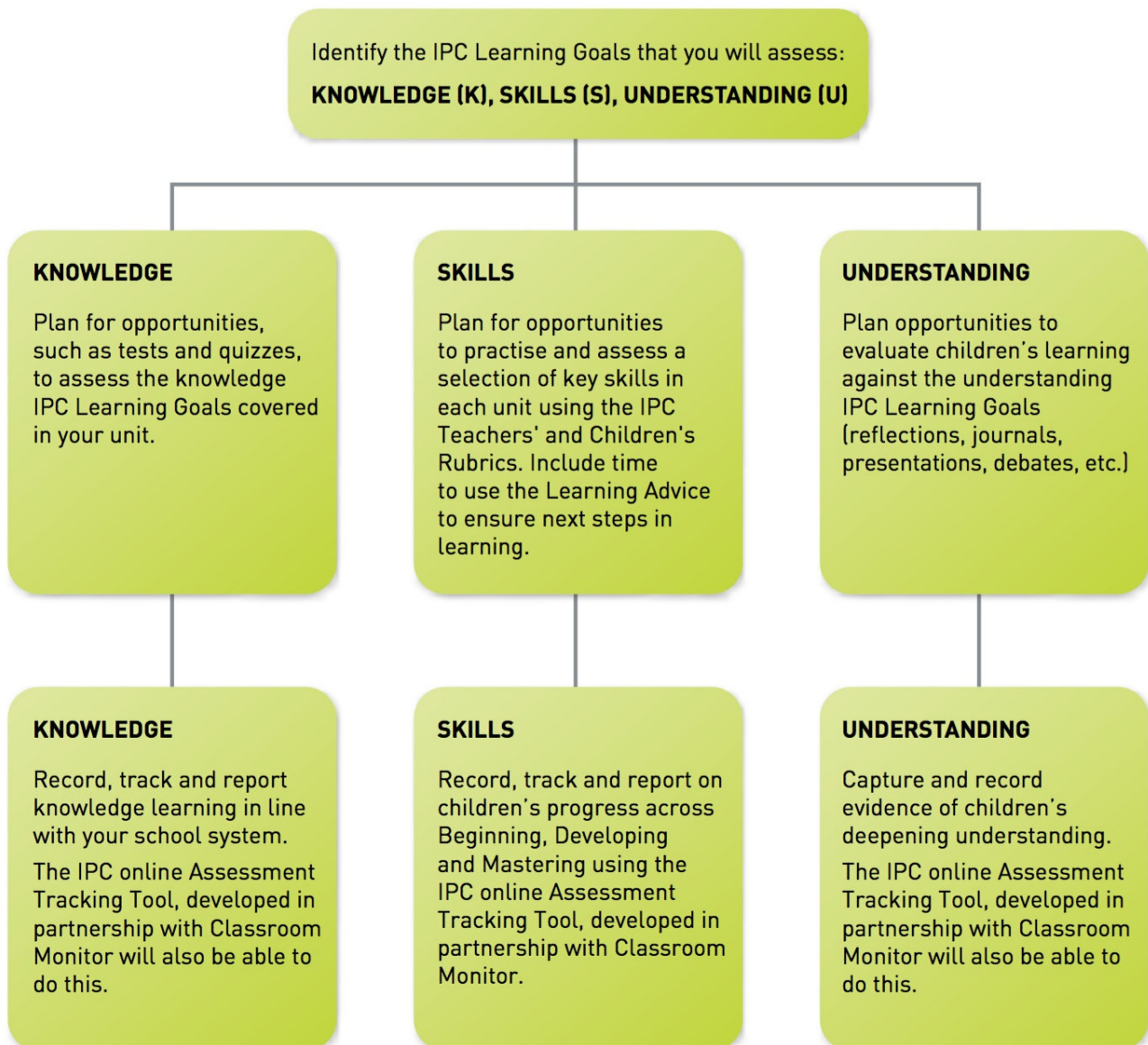
Understanding refers to the development or ‘grasping’ of conceptual ideas, the ‘lightbulb’ moment that we all strive for. Understanding is always developing.

The IPC units can’t assess understanding for you, but they do allow you to provide a whole range of different experiences through which children’s understandings can deepen.

(Please note: as well as the IPC Assessment for Learning Programme, we also offer an online Assessment Tracking Tool, developed in partnership with Classroom Monitor. Please email members@greatlearning.com for more information on how to sign up to this tool.)

Planning for Assessment

Once you have planned for the different IPC Learning Goals for each subject it is important to plan for assessment opportunities within each unit of work. Assessment needs to be balanced but rigorous to ensure that the children have learned what we planned for them to learn. The diagram below illustrates the processes you may want to use to ensure this happens.



Helping Children Reflect on Their Own Learning

In addition to teacher assessment, it is also vital to include children in reflecting on their learning and setting next steps for improvement. Ask the children to carry out self-assessments throughout each unit (using the Children's Rubrics to assess skills, and other methods chosen by the school for knowledge and understanding).

They could use the following headings to list/make notes on their newly acquired knowledge, skills and



understanding – ‘new things I now **know**’, ‘new things that I can **do**’ and ‘new things I am beginning to **understand**’.

Ask the children to evaluate different aspects of their learning – what did they do well, what could improve next time and how, what did they find the most/least interesting? How did they prefer to learn – as an individual/in pairs/small groups/large groups/as a whole class? What was their preferred method of researching and recording - writing/talking/making, etc.? This evaluation aspect will also support the development of the IPC Personal Goals.

Further Information

For more information on assessment, and knowledge, skills and understanding, please refer to:

- [The IPC Implementation File](#)
- [The Assessment for Learning Implementation File](#)
- [The IPC Self-Review Process](#)

Or contact the Membership Support team at members@greatlearning.com

The Entry Point

The Crazy Games

To help the children begin to see that fitness can be fun, hold a wild and wacky sports and activities day. You might want to show the children the following clips from a well-known TV series, Wipeout (known as Total Wipeout in the UK and USA), which is popular throughout many countries, especially in Europe.

www.youtube.com/watch?v=zYX-IKAnIz0

YouTube has this video from the TV series Total Wipeout - the world's craziest obstacle course.

www.youtube.com/watch?v=JoZDCxzodGo

YouTube has this home video that shows a Wipeout-style kids' course made on the street.

*(To watch a YouTube video in **safe mode**, scroll to the bottom of the page and click on the 'Safety' tab which brings up the '**Safety mode**' information. Under this section, select the '**on**' option, then click '**save**')*

Divide the class into groups of about 4/5. Each group must first come up with a team name – it could be related to countries or places or perhaps imaginary names, such as Team Dynamo, to reflect the character of the team.

Watch some more video clips to get an idea of the types of obstacles the contestants in Total Wipeout have to cross.

Challenge each group to invent an obstacle which will form part of your own Crazy Games. Whilst it is important to encourage the children to be creative and a little 'wacky', they do have to bear in mind resources that will likely be easily available. The games don't always have to be physical ones – perhaps the children could invent 'brain-fit' games?

Also do stress to the children the importance of keeping their obstacle safe for all participants.

Once the groups have finished planning and resourcing their obstacle, then work together as a class to plan your Crazy Games.

You will need to decide on a date, location, etc.

- Will you have team captains? Perhaps some members of staff from other classes could help here?
- Who will you invite to watch the games?
- Will you need refreshments?
- Who will keep the scores on a giant score board?
- Will you need commentators to get the crowd excited?
- Will there be a prize for the winners?

On the day of the actual Crazy Games, ensure you take lots of photographs and if possible video



recordings. Have a ceremony at the end to celebrate the winners and all those who participated.

Knowledge Harvest

Present the children with pictures of people cut from magazines and newspapers. Make them as diverse as possible - international, sporting, disabled, both sexes and all ages.

Ask the children to classify them. They might:

- Sort them into the fit and unfit
- Sort them into approximate ages
- Group them according to their likely level of fitness
- Range them along a line from very fit at one end to very unfit at the other

Ask for explanations of their choices.

The question is 'Fit for What?' A older person may not be an Olympic champ but if she is well able to look after herself, gardens, drives and is off on a holiday which involves lots of walking, then isn't she 'Fit for Life'?

Ask the children how fit they are. Ask them to record reasons why they think they are/are not fit, using two columns on a paper. Their reasons are private to them, but you can ask them to share any they want to with the class.

Collect their reasons for fitness – and otherwise. Challenge the idea that fitness has solely to do with sporting prowess. You can be fit at 9 or 90; you can be fit in a wheelchair; you can be fit whatever your gender or choice of physical activity.

Ask the children to keep their fitness audits for the end of the unit, when you will be looking to see if their opinions have changed.

Ask the children how you can measure fitness. Is it all about times for the hundred metres, or are there other measures? Are there other forms of fitness? Can you be fit for one sport, but not another?

The Big Idea

Your body is the most valuable thing you will ever own. It's your job to keep your body fit and healthy because it has to last you a lifetime! We are going to find out how best you can do that.

Explaining The Theme

In Physical Education, we'll be finding out:

- How we can improve our physical fitness
- About enjoyable activities that help us to become fitter
- About the importance of regular exercise

In Art, we'll be finding out:

- How different artists have represented people and their activities
- How we can record ourselves and our own activities

In Science, we'll be finding out:

- How to measure our fitness levels
- About diet and health
- About changes to our bodies that take place as we grow
- How we can look after our bodies and keep them in good condition

In International, we'll be finding out:

- How people around the world keep fit and healthy

The Big Picture

Fit for what?

Our children are growing up in a world that surrounds them with body images and physical extremes. From super-waif models to muscle-bound sportsmen, children are exposed to apparent ideals that few of them are likely to achieve. Society is obsessed with healthy living to the point that immortality seems attainable; and 'diet' is an issue, not of balanced and sensible eating, but of constant weight regulation or loss.

It is not surprising if some of them may feel that unless they strive to achieve unattainable standards of physical health and fitness, and look for implausible levels of happiness and perfect partners, they will somehow miss out on all that life has to offer. It is not surprising that anorexia, bulimia and other eating disorders are experienced by children as young as primary age.

This unit is concerned with physical fitness but bound up with that is general health and well-being. It is called 'Fit for Life' but it is constantly asking - 'Fit for What?'

Independence and interdependence

The theme supports 'independence' and 'interdependence'. Children will be learning skills of making decisions about their diet, hygiene and physical fitness. They will also be learning about their own place in society - that all have a contribution to make and that all, including themselves, should be valued.

The international aspect of the work can be found in the range of physical types and skills; varying cultural views of body image; and the values different societies place on the young, the elderly and the disabled.

Fitness

Children will be investigating the relationship between activity and changes in the human body. These changes include an increase in pulse rate (reflecting an increase in heartbeat), faster breathing and possibly a slight rise in body temperature. It is important to recognise that these are all 'associations' rather than direct connections. Because people differ so much, it is not possible to make a direct link between how much exercise a person does, and increase in pulse rate. This will differ with each individual. And it is important that children understand that there are many measures and degrees of fitness; because they appear to perform poorly, they may not be 'unfit'.

Recommended levels of physical activity

The World Health Organisation defines fitness as "the ability to perform muscular work satisfactorily".

The recommended level of physical activity for children aged 5-17 years is 60 minutes of "accumulated activity of moderate to vigorous intensity, including play, games, sports, chores, recreation and physical education in the context of family, school and community". To improve cardio respiratory, vascular, metabolic, bone health and muscular fitness most of the activity should be aerobic and "vigorous intensity activities should be incorporated including those that strengthen muscle and bone at least three times a week". World Health Organisation

Refer to the following websites for further information:

www.who.int/dietphysicalactivity/physical-activity-recommendations-5-17years.pdf

The World Health Organization website has this PDF of the recommendations for levels of physical activity for 5-17-year-olds.

www.who.int/dietphysicalactivity/pa/en/index.html

The World Health Organization website has a Global Strategy on Diet, Physical Activity and Health.

New recommendations advise that for adults aged 18 and over at least 150 minutes of moderate intensity physical activity throughout the week can reduce the risk of non-communicable diseases, such as heart disease, diabetes and cancer.

“Physical inactivity is the fourth leading risk factor for all global deaths, with 31% of the world’s population not physically active.” Dr Ala Alwan of the World Health Organization

Physical inactivity is associated with premature deaths (people under 60 years) and approximately 30% of diabetes and heart disease cases. “Changing the level of physical activity raises challenges for the individual but also at societal level.”

WHO Global Strategy

The World Health Assembly adopted the WHO Global Strategy on Diet, Physical Activity and Health, in May 2004, recognising the opportunity for reducing deaths and diseases worldwide by improving diets and increasing levels of physical activity.

Factors that increase the risks of non-communicable disease include: “elevated consumption of energy-dense, nutrient poor foods that are high in fat, sugar and salt; reduced levels of physical activity at home, at school, at work and for recreation and transport; and use of tobacco ... Of particular concern are unhealthy diets, inadequate physical activity and energy imbalances in children and adolescents.” WHO Global Strategy

Specific recommendations for diet include:

- Limit the energy intake from fats and move fat consumption away from saturated fats to unsaturated fats and eliminate trans fats
- Increase consumption of fruits and vegetables, whole grains and nuts
- Limit intake of sugars
- Limit sodium from all sources

In May 2014, WHO has also established a high-level Commission on Ending Childhood Obesity. *“Tackling childhood obesity now represents an important opportunity to reduce the impact of heart disease, diabetes and other serious diseases in future – while immediately improving the health of children.”* - WHO Global Strategy.

Physical Education Learning Goals

Children will:

- 3.01 Know that the study of physical education is concerned with healthy lifestyles and performing a range of movement activities
- 3.02 Know the principal rules of established sporting and athletic activities
- 3.03 Know the principles of water safety
- 3.13 Be able to swim a distance of at least 100 metres
- 3.14 Understand how physical activity affects the body

Physical Education Task 1

Learning Goals

3.01 Know that the study of physical education is concerned with healthy lifestyles and performing a range of movement activities

3.14 Understand how physical activity affects the body



Research activity

Explain to the children that they are going to test and take careful records of their heart rate. (You might want to link this with Science Task 1.) The children should work as a team, but you may want to enlist some extra adult help to be more precise with the recording. Ask the children to agree on an activity that will make their heart beat faster. In groups, they test the heart rate of their partners immediately before the activity. They then do the activity. They must then see how long it takes before their heart rate goes down to its original beat. Explain to the children that the crucial part to record is the time it takes for their heartbeat to go back to normal.



Recording activity

The children should keep their own personal record of the following:

- heartbeat before the activity
- heartbeat immediately after the activity
- the time it takes for the heartbeat to return to normal.

This record should be kept until just before the exit point, so that during the last week of the unit the timing is redone to see if there is any improvement. The children can use a simple spreadsheet to record their findings. When the children revisit the test, they can compare the data and see if there have been any changes. During the unit, the PE hall could be set up as a gymnasium and training venue that children can visit at different times, perhaps during lunchtimes and before/after school.

Parents might be willing to be involved in helping to monitor children and ensure that they are safe and exercising correctly.



Personal Goals

- Communication
- Cooperation
- Enquiry

Physical Education Task 2

Learning Goals

3.01 Know that the study of physical education is concerned with healthy lifestyles and performing a range of movement activities

3.14 Understand how physical activity affects the body



Research activity

Ask children about physical activity and why it is good for us. Does all physical activity have to be sporting? Collect some of the physical activities that people do and group them in different ways - those suited to the young or old, the house-bound. Make reference to the disabled, and to events like the Paralympics.

paralympic.org

The Official website of the Paralympic Movement has information and a guide to paralympic sports.

Children may have exercise videos/DVDs that they can bring in from home. Hold your own workout sessions, following some of the routines. Talk about those that were the most engaging and fun to try.



Recording activity

Ask the children to work in groups to plan, develop and perform a fitness programme for one of the groups they researched above, for example the elderly.

The following videos might provide a helpful starting:

youtube.com/watch?v=hlvbnCFvF7g

YouTube has this dance and fitness video for young people.

youtube.com/watch?v=LAeZZbpi8Ow

YouTube has this video of a seated cardio workout.

youtube.com/watch?v=UOigxml6H0U

YouTube has this video of a children's zumba fitness session.

*(To watch a YouTube video in **saf** mode, scroll to the bottom of the page and click on the '**saf**' tab which brings up the '**Saf** mode' information. Under this section, select the '**on**' option, then click '**saf**')*

Each group's performance could be recorded on video and shown as part of the exit point.

Personal Goals

- Communication
- Cooperation
- Enquiry
- Resilience
- Respect

Physical Education Task 3

Learning Goals

3.03 Know the principles of water safety

3.13 Be able to swim a distance of at least 100 metres



Research activity

If possible, use some of the children's PE lessons to develop their swimming skills. Teach them about water safety and the importance of swimming pool hygiene. Aim for all the children swimming at least 100 metres. Swimming should demonstrate that some children whose performance in land tasks may not be high are exceptional at swimming. Explore the idea of being 'swim-fit'.

While most schools will use official swimming instructors for lessons, the following website hosts a range of high-quality video clips covering all the common swimming strokes and could be useful for classroom viewing and discussion.

[videojug.com/tag/swimming](https://www.videojug.com/tag/swimming)

A large range of swimming videos covering everything from BackStroke to Butterfly

Note: be aware there is quite a lot of advertising on this site so you may wish to download the videos first to Real Player (follow link on screen) and then use them in the classroom.



Recording activity

At the end of the swimming lessons, you may want to hold a class swimming gala or other similar event to celebrate the children's swimming progress and achievement.

Personal Goals

- Enquiry
- Resilience
- Respect

Physical Education Extension Task

Learning Goals

3.02 Know the principal rules of established sporting and athletic activities



Extension activity

Encourage children to look outside the traditional events of school sports days at other sports where they might find enjoyment and fulfilment. Many sports have junior versions - mini rugby, Unihoc, short tennis - and make for a gentle introduction to the sport. Early success can be motivating; recognise the wide range of sporting and competitive activities that can contribute to children's health.

Children could keep a journal of their sports and activities, which could be shared with other children in the class.

ICT link: you could use a collaborative website such as Google Docs (docs.google.com), VoiceThread (voicethread.com) or Concept Share (conceptshare.com) to allow children to share and comment on each other's fitness journals.

Personal Goals

- Communication
- Enquiry
- Resilience
- Thoughtfulness

Art Learning Goals

Children will:

3.01 Know that the study of art is concerned with visual and tactile expression and communication

3.02 Know how artists, craftspeople and designers from a variety of traditions - including those of their home country and the host country - use materials, forms and techniques to express their emotions, observations and experiences



3.03 Be able to use a wide variety of materials, forms and techniques to express their emotions, observations and experiences



3.04 Be able to communicate through visual and tactile forms

3.05 Be able to improve their own work

3.06 Be able to make judgements about works of art, showing understanding, appreciation, respect and enjoyment as appropriate

3.07 Be able to consider works of art in terms of meaning, design, materials, technique, place and time

3.08 Understand that the work of artists is influenced by their environment and that artists have an effect on the environment

Art Task 1

Learning Goals

- 3.01 Know that the study of art is concerned with visual and tactile expression and communication
- 3.02 Know how artists, craftspeople and designers from a variety of traditions - including those of their home country and the host country - use materials, forms and techniques to express their emotions, observations and experiences
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- 3.07 Be able to consider works of art in terms of meaning, design, materials, technique, place and time
- 3.08 Understand that the work of artists is influenced by their environment and that artists have an effect on the environment



Research activity

Explore with children a range of artworks and pictures that represent people busy with some physical activity - working, travelling, dancing, playing games or sports. Use pictures from both home and host countries, and other geographical locations, and in a range of media.

Possible examples of 2D and 3D artwork might include:

The Discus Thrower, by Myron, 450 BC

The Biglin Brothers Racing, by Thomas Eakins, 1872

The Dance, by Henri Matisse, 1909

Unique Forms of Continuity in Space, by Umberto Boccioni, 1913

The Dancers, by Federic Weinberg, 1950s

Human Motions series, by Peter Jansen, 2007



Recording activity

Ask the children to put the artwork in order of popularity. They do this by making their own private list and then reasoning for their choice with the others in their group. Within a given time - ten minutes perhaps - they are to make a consensus list - with reasons. Ask them to present some of this - perhaps the most and least popular choices - to the class, explaining why.

Personal Goals

- Communication
- Cooperation
- Enquiry
- Thoughtfulness

Art Task 2

Learning Goals

3.01 Know that the study of art is concerned with visual and tactile expression and communication



3.03 Be able to use a wide variety of materials, forms and techniques to express their emotions, observations and experiences



3.04 Be able to communicate through visual and tactile forms

3.05 Be able to improve their own work



Research activity

Recall the pieces of art that the children looked at in the previous task and explain that the children are now going to create their own piece of artwork entitled 'Fit for Life'.

Ask the children to gather in the hall or playground.

Working individually, can they depict an action of their choice using only their body that sums up their interpretation of 'fit for life' – this could be running, dancing, skipping, playing a particular sport and so on. Using a digital camera, let each child capture an image of a child or group of children performing their chosen action. If necessary, the subject(s) may have to 'freeze' and hold their position, in order for the photographer to capture it.



Recording activity

Back in the classroom, the children can use their photographs as reference to work from. Provide suitable materials for the children to produce a 2D or 3D piece of artwork that depicts their action. Remind them that their pieces of art do not necessarily need to be life-like representations – instead they should try to capture the energy and spirit of 'Fit for Life'.



Personal Goals

- Adaptability
- Communication
- Cooperation
- Enquiry
- Thoughtfulness

Art Extension Task

Learning Goals

3.01 Know that the study of art is concerned with visual and tactile expression and communication



3.03 Be able to use a wide variety of materials, forms and techniques to express their emotions, observations and experiences



3.04 Be able to communicate through visual and tactile forms

3.05 Be able to improve their own work

3.06 Be able to make judgements about works of art, showing understanding, appreciation, respect and enjoyment as appropriate

3.07 Be able to consider works of art in terms of meaning, design, materials, technique, place and time



Extension activity

Produce and present an exhibition of people in action. Display the children's work and invite another class or classes. Invite parents and visitors and ask the children to act as guides and 'explainers'. Produce a catalogue of the show - perhaps using ICT. Scan some of the pictures, reduce them and add explanatory text. Use a digital camera to photograph three-dimensional exhibits and put these pictures in too. Ask the children to lead discussions about the exhibits with the visitors. Are the sports people the only ones who move well? Are the dancers the only ones to look beautiful? Is there such a thing as a perfect body?

Personal Goals

- Communication
- Cooperation
- Enquiry
- Resilience
- Thoughtfulness

Science Learning Goals

Children will:

3.01 Know that the study of science is concerned with investigating and understanding the animate and inanimate world around them



3.02a Be able to conduct scientific investigations posing scientific questions



3.02b Be able to choose an appropriate way to investigate a scientific issue



3.02c Be able to make systematic and accurate measurements from their observations



3.02d Be able to explain and justify their predictions, investigations, findings and conclusions



3.02e Be able to record and communicate their findings accurately using the most appropriate medium and the appropriate scientific vocabulary and conventions

3.03 Be able to gather evidence from a variety of sources

3.04 Be able to discriminate between evidence and opinion

3.05 Understand the importance of using evidence to test scientific ideas

3.06 Understand some of the effects of what they learn on people's lives

3.15 Know about the structure of the human body

3.16 Know the functions of the major internal and external parts of the human body

3.18 Know about the effect of exercise on the human pulse rate

3.19 Know about the effect of drug misuse on the human body

3.22 Know that some characteristics of humans are influenced by their environment

3.23 Understand the importance of an appropriate diet for the health of humans and other animals

Science Task 1

Learning Goals

3.01 Know that the study of science is concerned with investigating and understanding the animate and inanimate world around them



3.02a Be able to conduct scientific investigations posing scientific questions



3.02b Be able to choose an appropriate way to investigate a scientific issue



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3.18 Know about the effect of exercise on the human pulse rate



Research activity

Note: You may want to link the activity below with PE Task 1.

Refer to the pulse rate measurements the children took after exercising in PE Task 1. Ask the children: why was there an increase in our pulse rates after exercise? Invite suggestions from the class.

Your pulse tells you how fast your heart is beating. When you exercise, your heart beats faster to pump more blood around your body because blood is like a fuel – it contains all the nutrients, water and oxygen that your body needs.

The heart pumps blood around our body through tubes called blood vessels. Where does our blood go? Ask for suggestions from the children. First, it goes to the lungs where it picks up oxygen and off-loads waste carbon dioxide. Then it travels around the body to every single living cell where it delivers nutrients (from the food we eat; these are needed for energy, cell growth and repair) and oxygen, and takes away waste carbon dioxide back to the heart.

Arteries carry blood from the heart and veins carry blood back to the heart. This is known as

the circulatory system. You could create a big circulatory system role-play with the children playing the roles of the heart, blood, lungs, oxygen, carbon dioxide, cells and nutrients. You will need a large space so that you can involve as many children as possible.

Children who represent 'blood' run to the 'lungs' where they tag children who are 'oxygen' and drop-off children who are 'carbon dioxide'. Then they run around the body (draw an outline on the floor) to all the body's 'cells' delivering 'nutrients' (from the 'liver') and 'oxygen', and taking away waste 'carbon dioxide' back to the 'heart'.

Try to illustrate this continual movement of the blood circulating within the body by having a number of children playing the role of blood, oxygen, carbon dioxide and nutrients so that the flow is uninterrupted by children waiting for the blood to get back to the heart.

The following websites are useful for research:

kidshealth.org/kid/htbw/_bfs_CSmoviesource.html

KidsHealth has a video about the heart and the circulatory system.

childrensuniversity.manchester.ac.uk/interactives/science/exercise/heart

Children's University Manchester website has interactive activities about the heart and the pulse.

Extension activity

The children could research the other functions of the blood, for example:

- When we cut ourselves, our blood clots and hardens to close the wound and stop germs entering our body
- When we are ill, our blood uses antibodies (these act like soldiers) to fight off diseases and infections



Recording activity

The children could draw a life-size diagram (or body map) to illustrate the workings of the circulatory system, identifying and naming the associated body parts: heart, lungs, arteries, veins and blood vessels.

You could video-record the children as they perform the circulatory system role-play. Use this for revision later and to show the parents at the exit point what the children have learned.

Mathematics link: in pairs, ask children to record the following (before and after exercise):

- Pulse rate
- Body temperature
- Breathing rate

The children could record these measurements on a class spreadsheet (you don't need to record the children's names against these figures – they can be anonymous). Can the children work out the average pulse rate for the class before and after exercise? Then they can find out how many times their heart will beat in one hour or in one day. (Over the course of a day, the heart will beat about 100,000 times.) Together with the children, collect interesting statistics about the heart and the blood and its journey around the body. Add to these statistics with other interesting facts about the body as you work through this unit.

Personal Goals

- Adaptability
- Communication
- Cooperation
- Enquiry
- Thoughtfulness

Science Task 2

Learning Goals

- 3.01 Know that the study of science is concerned with investigating and understanding the animate and inanimate world around them
- 3.03 Be able to gather evidence from a variety of sources
- 3.04 Be able to discriminate between evidence and opinion
- 3.06 Understand some of the effects of what they learn on people's lives
- 3.18 Know about the effect of exercise on the human pulse rate



Research activity

Ask the children to perform an exercise. Apply the same safety precautions to this that you do to other forms of PE - be alert to children with physical difficulties; tell children not to stretch themselves beyond what is reasonable. Discuss the physical changes that they notice. (Feeling hot, out-of-breath and going red.) What explanations do they have for them? Recall why our heart beats faster after exercise (refer to the previous task). Examine the statistics you collected in the previous task (see Mathematicslink). Why does our breathing become faster after exercise? We feel out of breath because our muscles have used up a lot of oxygen and our body tries to replace this as quickly as possible. Why do we feel hot? Movement creates heat inside our body.

Collect and display the children's understanding, referring back to the knowledge harvest.

How does exercise change our body in more long-term ways? Consider the effect of exercise on other body parts: other muscles (remember the heart is a muscle), bones and organs. For example:

- Exercise strengthens our body's muscles
- Exercise is especially good for our lungs
- Exercise increases our muscle and bone mass
- Exercise keeps our body young (links to the extension task)
- Exercise makes us feel good
- Exercise is good for our brain too

Can the children think of any other effects?

The following websites might prove a useful starting point for research:

innerbody.com/htm/body.html

InnerBody presents all the body systems in graphic detail, and will interest any of your pupils who have plans for a career in medicine! (Note: this site does feature advertising.)

kidshealth.org/kid

KidsHealth website covers the body systems in some detail. It also tackles sensitive emotional issues in a straightforward way, and would provide information that goes beyond the usual biology.

bbc.co.uk/science/humanbody/body/factfiles/organs_anatomy.shtml

BBC website has interactive human anatomy diagrams.

From these sources, ask the children to work in groups to collect information about fitness and health. Ask each child to research a range of 'top tips' about keeping fit and healthy that they can share with the class.



Recording activity

Ask the children to present their 'top tips' findings in the form of an Amazing Healthy Body book. Ask the children to record their fascinating facts, statistics and tips in it, using word processing and desk-top publishing software. They could download or scan illustrations too.

The children should explain their findings to each other in the form of class presentations, or they could role play a doctor/patient scenario - divide the class into 'doctors' and 'patients' and ask the doctors to give advice on the health benefits of exercise to their patients! You could encourage the patients to ask the doctors difficult questions to test the extent of their knowledge! Swap roles so that everyone has a chance at being both a doctor and a patient.

Personal Goals

- Adaptability
- Communication
- Cooperation
- Enquiry
- Resilience
- Respect
- Thoughtfulness

Science Task 3

Learning Goals

- 3.01 Know that the study of science is concerned with investigating and understanding the animate and inanimate world around them
- 3.03 Be able to gather evidence from a variety of sources
- 3.04 Be able to discriminate between evidence and opinion
- 3.05 Understand the importance of using evidence to test scientific ideas
- 3.06 Understand some of the effects of what they learn on people's lives
- 3.19 Know about the effect of drug misuse on the human body
- 3.23 Understand the importance of an appropriate diet for the health of humans and other animals



Research activity

Consider the role of a balanced diet in achieving fitness. Ask children to record the food they eat for a period of a week or so. Remember that their food choice and intake may not be in their control.

Ask the children to examine their diets for balance. Are the essentials - proteins, carbohydrates, vegetables and fruit – present? Are they eating enough fibre, drinking plenty of water?

What improvements could they make in their diets? Could sweet snacks be replaced by fruit or savoury with nuts?

Challenge the children to find out about the different 'food groups' from reference books and the internet. They should find out what the different food groups are and how much we should eat from each group. Don't forget water - we should drink about 6 glasses of water a day. Though this will vary depending on our body weight and activity levels.

We lose water when we cry, sweat and go to the toilet and our body's cells need water for hydration and growth. What happens to the food and water we consume? This gets broken down in our stomach, and is absorbed into our blood and carried to all our body's cells for growth and repair (recall the role of the blood in Science Task 1). The children could explore the workings of the stomach and other digestive organs in more detail by drawing the journey of food and water on a diagram of the digestive system.

Consider the impact of alcohol, drugs such as smoking, and other lifestyle factors that affect our fitness levels.

It is well known that smoking is bad for our health in many ways (especially for our lungs) but how does cigarette smoke affect our heart? Smoking causes heart disease by decreasing oxygen going to the heart, damaging blood vessels and increasing heart rate (link to learning in the milepost 3 unit, Drugs Education). Drugs are dangerous because they can kill and are addictive. Excessive alcohol damages the heart, liver and stomach.

The following websites might prove a helpful starting point for the children's research:

nutritionexplorations.org/kids/nutrition-main.asp

Nutrition Explorations website is designed to help children find out about nutrition, food groups and how much they should eat.

choosemyplate.gov/food-groups

The United States Department for Agriculture has developed the 'MyPlate' design, to illustrate the five food groups. The site has downloadable posters and images of the MyPlate icon.

nhs.uk/Livewell/Goodfood/Pages/eatwell-plate.aspx

The NHS UK website features the 'eatwell' plate to demonstrate a healthy diet.

nhs.uk/Livewell/Goodfood/Pages/eight-tips-healthy-eating.aspx

NHS UK website has 8 Tips for Healthy Eating.



Recording activity

Ask the children to plan a 'healthier' diet for themselves and others. Share their findings with others in the class. What are the similarities and differences between the different diets?

The children could plan and develop a healthy-eating campaign for the whole school - posters, information sheets and other campaign literature could be produced.

From their research the children should know about the types of foods we should eat more of (vegetables and fruit) and the types we should eat less of (fat, sugar, salt) because eating lots of fat and sugar will, over time, block our blood vessels.

Technology link: ask the children to think about the snacks they bring to school to eat during playtimes. Are they healthy? Can the children think of any healthier alternatives? Challenge children to create their own healthy drink/shake, nutritious salad or savoury dish (such as a cheese muffins, flapjacks etc). If time allows you could expand this session to research where in the world the different ingredients come from, and their seasonality, exploring whether there are any benefits of using ingredients that are in season and available locally versus using imported ingredients. The children could find how some of the ingredients were grown and processed. If they chose to use any meat in their savoury dishes, or ingredients which came from animals, you could challenge the children to trace the foods back to their origins, finding out how animals are reared to help produce food for the human race. Do their parents ever buy organic meats, fruit or vegetables? What does this mean, and what are the benefits? You could even take a trip to a local farm or crop producer if appropriate to find out more!

Explore different techniques for preparing, cooking and presenting these ingredients. When sharing their finished healthy drinks/snacks, prompt the children to talk about the different ingredients that they used and why.

Don't forget to end with a fun tasting session – or even invite other members of the school community to taste the drinks/dishes and judge the results. (Note: always be aware of any allergies when handling or tasting different foods.)

Challenge children to create their own healthy drink/shake, nutritious salad or savoury dish (such as a cheese muffin, flapjacks etc). Children could explore the taste of different ingredients and consider how they might combine these ingredients in their recipe. Explore different techniques for preparing and presenting these ingredients. When displaying their finished healthy drinks/snacks, prompt the children to talk about the different ingredients that they used and where in the world they came from. They should also be able to explain the reasons for their choices. Then you can have a fun tasting session – or even invite other members of the school community to taste the drinks/ dishes and judge the results. (Note: always be aware of any allergies when handling or tasting different foods.)



Personal Goals

- Communication
- Enquiry
- Respect
- Thoughtfulness

Science Extension Task

Learning Goals

- 3.03 Be able to gather evidence from a variety of sources
- 3.04 Be able to discriminate between evidence and opinion
- 3.06 Understand some of the effects of what they learn on people's lives
- 3.15 Know about the structure of the human body
- 3.16 Know the functions of the major internal and external parts of the human body
- 3.19 Know about the effect of drug misuse on the human body
- 3.22 Know that some characteristics of humans are influenced by their environment
- 3.23 Understand the importance of an appropriate diet for the health of humans and other animals



Extension activity

In what ways have you changed since you were a baby? Invite the children to make suggestions. Can you predict how you will change as you grow older? Consider not only external changes (such as wrinkling skin, greying/loss of hair) but internal changes too.

For example:

- Declining bone mass – bones become thinner, more brittle and more liable to break in the event of a fall. Bones shrink a little too, so we get shorter as we age.
- Weak muscles - the children should recall that the heart is a muscle and like all muscles it becomes weaker as we age. That's why older people have more heart problems than younger people.
- Stiff joints - why do people get stiffer joints in old age? The children may be able to discuss this question with their grandparents or other older relatives. Joints become stiff because cartilage thins and ligaments become less flexible.
- Memory loss - some people develop memory loss as they age because of chemical changes in the brain. Scientists are looking to find a cure or a way of slowing down this process.

The following website is a useful starting point for research:

sciencemuseum.org.uk/WhoAmI/FindOutMore/Yourbody/Whatisageing/Whathappenswhenthebrainsfun

Science Museum website has information about how the body ages.

Can we stop the ageing process? Show the children photographs of older people doing adventurous or physical activities such as swimming, hill walking, cycling. We can't stop the ageing process but there are things we can do to keep our bodies fit and healthy into old age. What are these things? Recap on the previous science tasks.

If we:

- Eat a healthy, balanced diet
- Exercise and keep our bodies active
- Don't smoke and avoid drugs and alcohol

... the chances are we will live longer.

The children could create a public health campaign, with information leaflets and posters, or a TV-style advertisement to encourage their parents and grandparents to lead healthier lives. They should present the facts as they know them in a clear and persuasive way, and explain how some of the processes of ageing can be slowed down so that we remain fit and healthy for much of our lives.



Personal Goals

- Communication
- Cooperation
- Enquiry
- Respect
- Thoughtfulness

International Learning Goals

Children will:

3.01 Know about the key features related to the lives of people in their home country and, where appropriate, their parents'- home countries

3.04 Know about similarities and differences between the lives of people in different countries

3.07 Understand that there is value both in the similarities and the differences between different countries

International Task

Learning Goals

3.01 Know about the key features related to the lives of people in their home country and, where appropriate, their parents' - home countries

3.04 Know about similarities and differences between the lives of people in different countries

3.07 Understand that there is value both in the similarities and the differences between different countries



Research activity

Ask the children to talk to their parents and other people from their home country. Find out which games and activities are used by children and adults, which help people maintain good levels of fitness.

Ask children to compare and contrast the differences between the countries. What similarities can they find? Are there any differences?

The children may discover that some original home country healthy activities such as Yoga exercises or Tai Chi are also found now in many other parts of the world.



Recording activity

Ask the children to combine all their findings and create a large classroom display showing how people keep fit around the world.

The children could extend this by including statistics for each country related to health and fitness (such as life expectancy).

Although meant for older students and adults, the following video may prove a very entertaining introduction to health-related statistics for some children in the class.

[ted.com/talks/hans_rosling_shows_the_best_stats_you_ve_ever_seen.html](https://www.ted.com/talks/hans_rosling_shows_the_best_stats_you_ve_ever_seen.html)

Hans Rosling shows the best stats you've ever seen.



Personal Goals

- Adaptability
- Communication
- Cooperation
- Enquiry
- Thoughtfulness

International Extension Task

Learning Goals

- 3.01 Know about the key features related to the lives of people in their home country and, where appropriate, their parents' - home countries
- 3.04 Know about similarities and differences between the lives of people in different countries
- 3.07 Understand that there is value both in the similarities and the differences between different countries



Extension activity

Consider the modern-day media and how it can influence our views and opinions about ourselves and others. Give groups a fashion Or popular music magazine for them to critique (check that the content is appropriate for the age group – alternatively you could just provide covers and some example adverts). Look at the people that are portrayed and the types of messages and articles that are most popular. Who is their audience? Who are they selling to? What is the underlying message?

Ask each group to record their thoughts. How does the magazine represent and promote a certain type of body image? Does it represent reality or is promoting a perfect ideal that we can never attain? How do the adverts and images make us feel?

Invite each group to share their thoughts, using examples from their magazines to support their opinions. Do they feel this ideal body image is shared by all cultures around the world? If possible, link up with schools in other countries (the IPC Members' Lounge provides a great starting point for connecting with other IPC schools) and share views and learning. Do children in other countries have the same worries and concerns about body image, or are they different? How do they approach food and fitness? You could even extend this to creating questionnaires that class members in other schools can complete. Compile and view the results, and compare.

Language Arts link: ask the children to write a magazine article about body image in the media. They can use their research and discussion from the International Extension Task to help them plan their article, and form their own opinion.



Personal Goals

- Communication
- Cooperation
- Enquiry
- Morality
- Respect
- Thoughtfulness

The Exit Point

Bring together all your class has learned about health and fitness to organise a Fit for Life Expo.

Involve the children from the very beginning with the ideas, planning, organisation and communication of the event. It can be as ambitious as you want it to be – with different activities planned throughout the Expo. The children can showcase their 'Fit for Life' works of art and display the scientific results from their fitness investigations. Don't forget the children can also perform their fitness videos they created in PE Task 2 and their circulatory role play from Science Task 1.

As a finale, you might want to provide a range of physical activities (perhaps some from the Crazy Games entry point) for all to enjoy and take part in – especially for the parents! Don't forget, if you intend to serve snacks make sure they are healthy!

The IPC community would love to see examples of your learning, in any subject, at any stage of the learning process. If you have any pictures or stories you would like to share please visit our Facebook page at <https://www.facebook.com/InternationalPrimaryCurriculum>, tweet @The_IPC or email stories@greatlearning.com.

Resources

For this unit, you will need some, but not necessarily all, of the following:



Equipment

- Pictures of people from magazines/catalogues- that challenge physical stereotypes
- Art paper
- Charcoal
- Sketchbooks
- Wire
- Clay
- Measuring/ timing equipment
- Stopwatches
- Thermometer
- Pulse meter
- Videos



Links

<http://www.videojug.com/tag/swimming>

A large range of swimming videos covering everything from Back Stroke to Butterfly

http://www.bbc.co.uk/science/humanbody/body/factfiles/organs_anatomy.shtml

BBC website has interactive human anatomy diagrams.

http://www.bbc.co.uk/science/humanbody/body/factfiles/organs_anatomy.shtml

BBC website has interactive human anatomy diagrams.

<http://www.childrensuniversity.manchester.ac.uk/interactives/science/exercise/heart/>

Children's University Manchester website has interactive activities about the heart and the pulse.

http://www.ted.com/talks/hans_rosling_shows_the_best_stats_you_ve_ever_seen.html

Hans Rosling shows the best stats you've ever seen

<http://www.innerbody.com/htm/body.html>

InnerBody presents all the body systems in graphic detail, and will interest any of your pupils who have plans for a career in medicine! (Note: this site does feature advertising.)

<http://www.kidshealth.org/kid>

KidsHealth website covers the body systems in some detail. It also tackles sensitive emotional issues in a straightforward way, and would provide information that goes beyond the usual biology.

http://kidshealth.org/kid/stay_healthy/food/pyramid.html

KidsHealth website has an up-to-date interactive food guide pyramid.

<http://www.nhs.uk/Livewell/Goodfood/Pages/eight-tips-healthy-eating.aspx>

NHS UK website has 8 Tips for Healthy Eating.

<http://www.nutritionexplorations.org/kids/nutrition-main.asp>

Nutrition Explorations website is designed to help children find out about nutrition, food groups and how much they should eat.

<http://www.nhs.uk/Livewell/Goodfood/Pages/eatwell-plate.aspx>

The NHS UK website features the 'eatwell' plate to demonstrate a healthy diet.

<http://www.paralympic.org/>

The Official website of the Paralympic Movement has information and a guide to paralympic sports.

<http://www.choosemyplate.gov/food-groups/>

The United States Department for Agriculture has developed the 'MyPlate' design, to illustrate the five food groups. The site has downloadable posters and images of the MyPlate icon.

<http://www.sciencemuseum.org.uk/WhoAmI/FindOutMore/Yourbody/>

Whatisageing/Whathappenswhenthebrainsfunctiondeclines.aspx Science Museum website has information about how the body ages.

<http://www.youtube.com/watch?v=hlvbnCFvF7g>

YouTube has this dance and fitness video for young people.

<http://www.youtube.com/watch?v=JoZDCxzodGo>

YouTube has this home video that shows a Wipeout-style kids'- course made on the street.

<http://www.youtube.com/watch?v=zYX-IKAnlz0>

YouTube has this video from the TV series Total Wipeout - the world'-s craziest obstacle course.

<http://www.youtube.com/watch?v=U0igxml6H0U>

YouTube has this video of a children'-s zumba fitness session.

<http://www.youtube.com/watch?v=LAEZZbpi8Ow>

YouTube has this video of a seated cardio workout.



International Primary Curriculum

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